

# Asymptotic Palm likelihood theory for stationary point processes

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**Abstract** In the present paper, we propose a Palm likelihood approach as a general estimating principle for stationary point processes in  $\mathbf{R}^d$  for which the density of the second-order factorial moment measure is available in closed form or in an integral representation. Examples of such point processes include the Neyman–Scott processes and the log Gaussian Cox processes. The computations involved in determining the Palm likelihood estimator are simple. Conditions are provided under which the Palm likelihood estimator is strongly consistent and asymptotically normally distributed.

**Keywords** Asymptotic normality · Cluster processes · Consistency · Neyman–Scott processes · Log Gaussian Cox processes · Palm likelihood · Spatial point process · Strong mixing